H58271, H16122, W77956, AA193332, AA323923, AA370209, AA296758, W72757, AA093971, AA385544, AA386175, AA165402, AW085713, H42806, AA093977, AI161152, AA370011, AI671702, R71215, AA885343, T79297, AI814869, R81567, AI082713, N29615, AW087726, AW075710, AI952608, AI818073, AI784445, AI432812, AI375568, AI372904, AI364106, AI143379, AA993074, AA953985, AA862385, AA761084, AA576229, AA569223, AA463198, AA452117, AA416877, AA074872, W16851, W04568, N40176, AW068354, AA857004, H58663, H15819, AW264944, AI923965, AI692214, AI475321, AI435987, AA961068, AA206059, AI469161, T84789, AA507257, AA707515, AA132458, AA179262, T79211, W31505, N25699, T99574, T99363, AI751598, AA713668, T91119, AW105515, AA370208, AI422128, R81568, AI038899, AI971847, AI540650, AI826106, AA885960, R56263, AA825431, T99147, D31503 and AF049564, or

d) a complementary sequence to the sequences of a) and/or b).

a1

2. Nucleic acid according to claim 1, which includes a protein-coding segment comprising [of preferably] at least 30 nucleotides of the nucleotide sequence shown in Fig. 1.

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a2

4. Modified nucleic acid or nucleic acid analogue, which includes a nucleotide sequence according to [one of the claims 1 to 3] claim 1.

5. Recombinant vector, which includes at least one copy of a nucleic acid according to [one of the claims 1 to 3] claim 1 or a section thereof.

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a3

7. A transformed cell, non-human transgenic organism, or animal model comprising [With] a nucleic acid according to [one of the claims 1 to 3] claim 1 or a vector according to claim 5 [or 6 transformed cell, a corresponding non-human transgenic organism or animal models], which stably produce (knock-in) the product of the nucleic acid according to [one of the claims 1 to 3] claim 1 or whose corresponding natural gene was destroyed deliberately (knock-out).

8. Polypeptide or a salt thereof, which is coded by a nucleic acid according to [one of the claims 1 to 3] claim 1.

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10. Fragment of the polypeptide according to claim[s] 8 [or 9] with at least 100 amino acids or salts thereof.

11. Modified polypeptide, which includes an amino acid sequence according to claim[s] 8 [or 9].

12. Method[s] for the synthesis of the polypeptide according to claim 8 [or 9], which includes the cultivation of cells according to claim 7 [as well as] and the isolation of the polypeptide according to claim 8 [or 9].

13. A method for producing an antibody against the polypeptide of claim 8, comprising contacting an antibody-producing cell with [Use of] a polypeptide according to claim 8 [or 9] or [of] fragments of this polypeptide as an immunogen [for the production of antibodies].

14. Antibodies against a polypeptide according to claim 8 [or 9].

15. Method for the identification of effectors of a protein according to claim 8 [or 9], with the help of which various potential effector substances can be tested on cells, which express the protein.

16. Pharmaceutical composition, which includes as an active component
    a) a nucleic acid according to [one of the claims 1 to 4] claim 1,
    b) a vector according to claim 5 [or 6],
    c) a cell according to claim 7,
    d) a polypeptide according to claim 8, [9,]10 or 11,
    e) an antibody according to claim 14

and which contains the pharmaceutically usual carrier, auxiliary and/or additive substances.

17. A method of diagnosing a disease [Use of a composition according to claim 16 for diagnosis of diseases,] which [are] is associated with DNA repair defects, cell cycle disorders, cytopenia, tumorigenesis and/or tumor progression, or a predisposition to such a disease[s] comprising the use of a composition according to claim 16.

18. A method of diagnosing a disease [Use of a pharmaceutical composition for diagnosis of diseases] which [are] is associated with DNA repair defects, cell cycle disorders, cytopenia, tumorigenesis and/or tumor progression, or a predisposition to such a disease[s], comprising the use of a composition which contains as an active component

a) an EST sequence according to claim 1c,
b) a recombinant vector which includes at least one copy of the EST sequences mentioned above,
c) a recombinant vector according to b) which enables the expression of the nucleic acid in a suitable host cell,
d) a cell according to claim 7, whereas the nucleic acid consists of one of the EST sequences mentioned above,
e) a polypeptide being coded by one of the EST sequences mentioned above or a salt thereof or,
f) a polypeptide according to e) which exhibits the amino acid sequence shown in Fig.2 or a homology of more than 60% with the amino acid sequence shown in Fig.2 or a salt thereof,
g) a fragment of the polypeptide according to e) or f) with at least 100 amino acids or a salt thereof,
h) a modified polypeptide which includes an amino acid sequence according to e) or f),
i) an antibody against a polypeptide according to e) or f)

and which contains pharmaceutically usual carrier, auxiliary and/or additive substances.

19. A method for treating or preventing a disease [Use of a composition according to claim 16 for the therapy or prevention of diseases,] which [are] is associated with DNA repair

defects, cell cycle disorders, cytopenia, tumor genesis and/or tumor progression, comprising administering a composition of claim 16.

20. A method for treating or preventing a disease [Use of a pharmaceutical composition according to claim 18 for the therapy or prevention of diseases,] which [are] is associated with DNA repair defects, cell cycle disorders, cytopenia, tumorigenesis and/or tumor progression, comprising administering a composition of claim 18.

21. The method of claim 19, wherein said treating or preventing is carried out by [Use of a composition according to claim 16 for a] gene therapy [of diseases, which are associated with DNA repair defects, cell cycle disorders, cytopenia, tumorigenesis and/or tumor progression].

22. The method of claim 20, wherein said treating or preventing is carried out by [Use of a pharmaceutical composition according to claim 18] for gene therapy [of diseases which are associated with DNA repair defects, cell cycle disorders, cytopenia, tumorigenesis and/or tumor progression].

23. Method[s] for diagnosing diseases, which are associated with DNA repair defects, cell c cycle disorders, cytopenia, tumorigenesis and/or tumor progression or a predisposition to such diseases, during which a patient or a sample from the patient is brought in contact with a composition according to claim 16 and the nucleotide sequence and/or the expression of a nucleic acid according to claim 1 is determined.

24. Method[s] for the therapy or prevention of diseases, which are associated with DNA repair defects, cell cycle disorders, cytopenia, tumorigenesis and/or tumor progression, during which a patient is administered a composition according to claim 16, which contains the active components in an amount effective against the disease.

If there are any other charges, or any credits, please apply them to Deposit Account No. 03-2095.

Respectfully submitted,

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